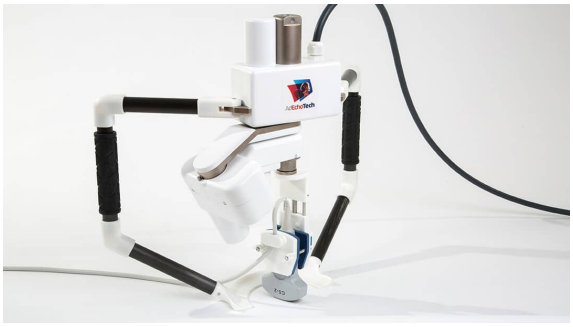
User Guide - Remote-Controlled Ultrasound Robot "Symphony"



Welcome to the user guide for the Remote-Controlled Echography Robot "Symphony." This guide provides detailed instructions for the effective and secure use of your remote ultrasound system.

⚠ WARNING

Electrical Safety:

The SYMPHONY system adheres to IEC 60601-1 A1:2012 (Ed 3.1) electrical safety standards.

- Only connect the device to a grounded mains network with hospital-standard sockets. Use the supplied power cable to avoid electric shock risks.

Electromagnetic Safety:

- The SYMPHONY system complies with IEC 60601-1-2:2014 (Ed 4) electromagnetic safety standards.
- Avoid placing or stacking the SYMPHONY system with other equipment to prevent malfunctions. Only use specified accessories, transducers, and cables to prevent improper operation. Keep portable RF communications equipment at least 30 cm away.

Network/Data Coupling:

- Connecting the system to a network/data coupling with other equipment may pose unidentified risks. The responsible organization should identify, analyze, evaluate, and control these risks.
- Changes to the network/data coupling, such as configuration updates or equipment upgrades, could introduce new risks requiring additional analysis.

1. Introduction

The Remote-Controlled Echography Robot "Symphony" offers an advanced solution for remote echography, providing rapid access to medical imaging services with exceptional precision.

2. System Connection

1• Turn on the Robot, the Controller and PCs connected with them. The Symphony App will run to connect Robot and Controller to Symphony Portal.
2• Connect you to Symphony Portal with your account.
3• Connect your Controller with the Robot you want to control. The Robot will show a code to the compagnon. Write this code on your PC.
4• The connection is established. Make sure you and compagnon have a good and stable Internet connection to keep the link between Robot and Controller.

Hint : When the Robot and the Controller loses their connection, the robot stops immediately their moves and returns to its initial position.

The controller.

3. Robot Controls

Move the controller like a real echography probe. The robot will reproduce your movements.
You can change the settings of acquisition when you want and you have all ecography functionalities like screenshot.

4. Image Acquisition

1• Position the robot precisely at the desired location.
2• Select the imaging mode (abdominal, cardiac, etc.).
3• Capture sharp images or video by pressing the dedicated button.

5. Advanced Features

Measurements and Annotations

• Utilize built-in measurement tools to assess dimensions accurately.
• Add annotations directly to images to document observations.

Real-Time Screen Sharing

• Collaborate with other healthcare professionals by sharing the screen in real-time for remote consultations.

6. Safety and Confidentiality

1• Strictly adhere to security protocols established by your institution and tested with different doctors.
2• Ensure that all patient data is handled in accordance with medical confidentiality standards.
3• During the session, don't touch or place an object in the red area. If a Robot can't move, it will stop and prevent you and the companion. When the path is open, the session resumes normally.

7. Troubleshooting

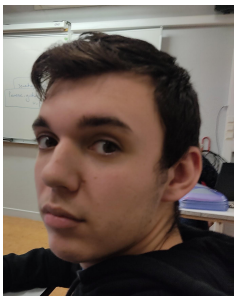
Issue: Loss of Connection.
•Solution: Check the stability of the internet connection and reconnect if necessary.

Issue: Low Image Quality.
•Solution: Adjust the image resolution or reposition the robot for optimal reception.

Issue: The Robot doesn't move.
•Solution: A lost of connection can explain this issue. In certain cases, the robot doesn't move because it can't move to the position you want or an object blocks the Robot's movement. In this case, the robot doesn't move and prevents you and the companion by a specific signal.

8. Technical Support

For any questions or technical assistance, contact our dedicated support team at Support-Symphony@TEMT.com or call +33 7 68 14 88 00.



9. Updates and Enhancements

Stay informed about regular software updates to benefit from the latest features and performance improvements for your "Symphony" Echography Robot.

To update a Robot or a Controller, use the Symphony Portal App and go to settings of the device you want to update to start it. Make sure to do the update when you don't need to use the device because it cannot be used when updating. To update the

Symphony Portal App, use the settings of the PC and go to the updates part.

Symphony System Usage Guidelines

Patient Interface (Symphony PATIENT)
- Always position the Patient Control interface with the touchscreen facing upwards.
- Never hold or lift the robotic probe holder by the umbilical cable or internal components marked in red (see illustration above).
- During the examination, refrain from touching the ultrasound imaging device probe cable while the expert controls the robotic probe holder.
- Avoid obstructing the robotic arm's field of action during the expert's control. In case of a blockage, the arm automatically adjusts after 5 seconds.

Expert Interface (Symphony EXPERT)
- Position the Expert Control interface with the touchscreen facing upwards.
- Handle the Expert set carefully, avoiding holding it by the cables.

Fictitious Probe (MEV)
- Treat the fictitious probe delicately as it is a sensitive component of the system.

Recommendation for Use
Before starting the examination, ensure the following conditions:
- Establish communication with the patient site via the videoconferencing system.
- Confirm real-time display of ultrasound images.
- Ensure the expert can take control of the probe holder robot.

If doubts arise about the system's behavior or patient safety during the examination, immediately remove the system, and stop the examination using the emergency shutoff.

Precautions
Do not spray cleaning solutions directly onto Symphony surfaces; it may damage the system.
- Avoid using solvents or abrasive products, as they can harm external surfaces.
- During cleaning, prevent solution penetration inside the system.
- The user is responsible for disinfection based on the tissues contacted during the examination.

The type of uses

-Abdominal Ultrasound:
Examines abdominal organs for conditions like liver disease and kidney issues.

-Cardiac Ultrasound:
Assesses heart structure for conditions like valve disorders and heart failure.

-Pelvic Ultrasound:
Visualizes reproductive organs, aiding in diagnosis of issues like cysts and fibroids.

-Urinary Tract Ultrasound:
Checks kidneys, bladder, and ureters for stones and urinary tract problems.

-Gynecologic Ultrasound:
Images of the female reproductive system for pregnancy and issues like cysts.

-Obstetric Ultrasound:
Monitors fetal development and position during pregnancy.
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